DOCTOR OF PHILOSOPHY

A Portfolio of Original Compositions (Andrew Dolphin)

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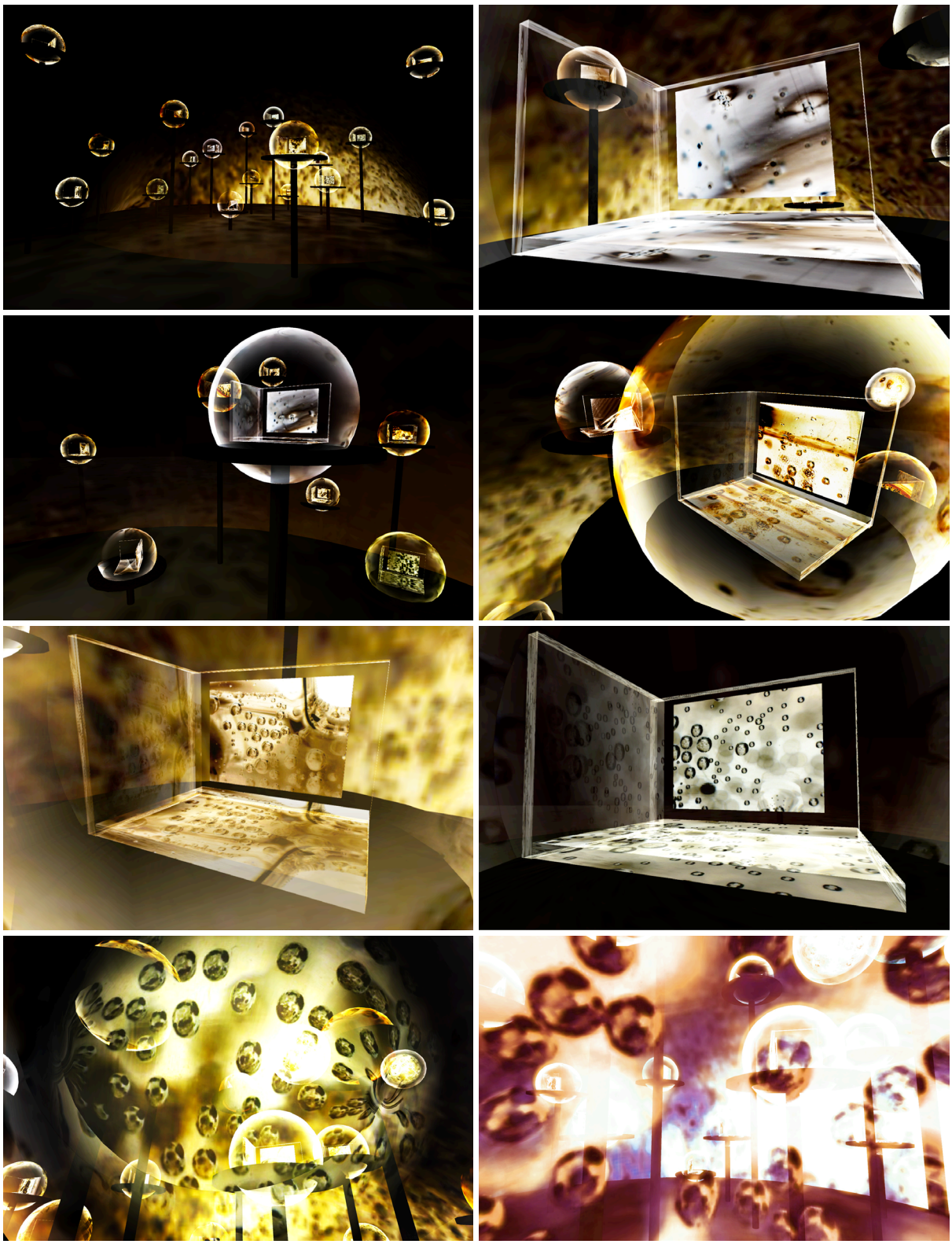
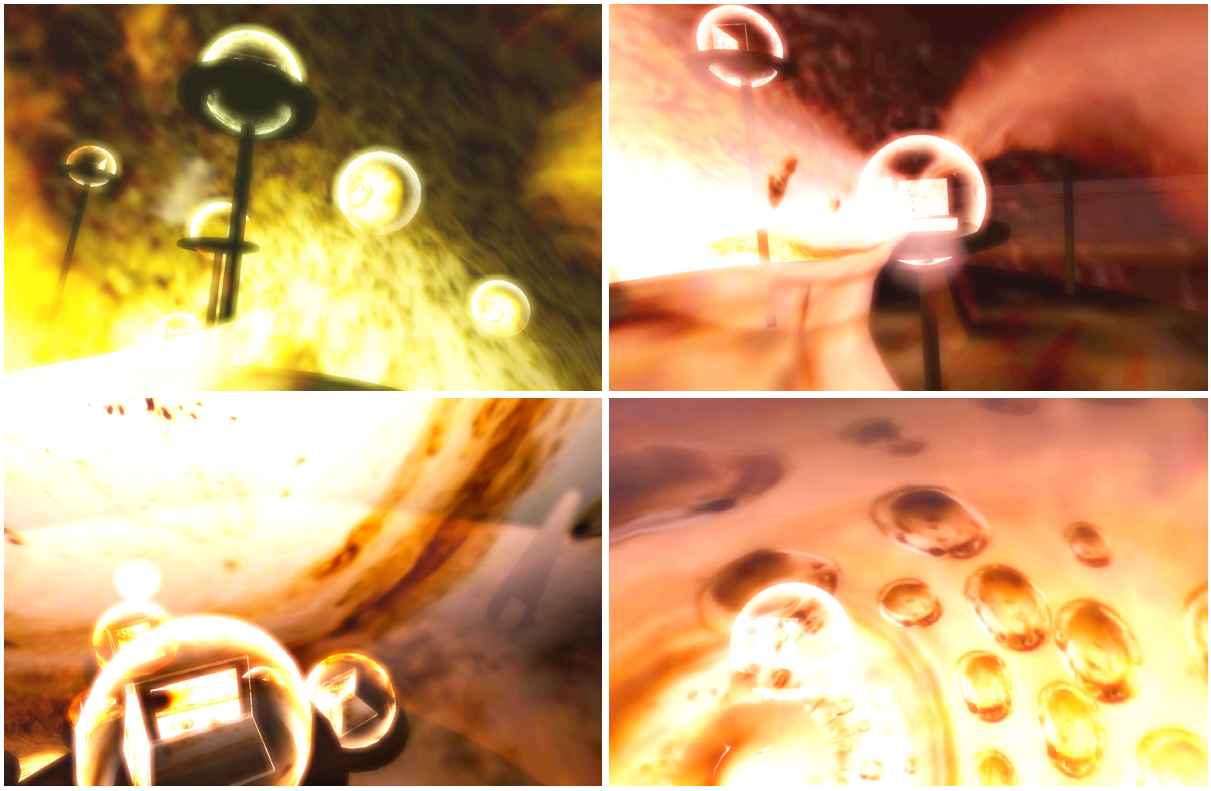
3.1 Virtual imaginary installation





Figures 17a & 17b. Screenshots | Dioxide Dissolves

Dioxide Dissolves Media

Dioxide Dissolves Software
Dioxide Dissolves Demonstration Video

Overview of Work

Dioxide Dissolves[84] explores a number of aesthetic and compositional themes relevant to other works contained in the portfolio, in both fixed media, and open form sound toy projects. Compositional influence from an external physical agency is considered to be a central theme. Ideas relating to transformed perspectives of scale, naturalistic events as a compositional stimulus, and abstraction are also evident. In *Dioxide Dissolves*, these shared compositional themes, which are primary creative concerns of many of the fixed media multichannel works presented later, are explored using an alternative medium and an open form structure.[85] Original pre-composed materials are presented in an open form, in which

[84] All visual and sound materials used in the work are original and were created by the author.

[85] *Dioxide Dissolves* is perhaps more explicit in demonstrating interrelationships between the sound toy works and the fixed media electroacoustic pieces presented in the portfolio.

structural decisions, transformations of materials and perspectives of the piece are determined by the user/player.

Dioxide Dissolves is presented as a virtual imaginary installation. The work consists of eighteen audiovisual miniatures. Each of the eighteen miniatures is an individual micro composition, with sound materials composed in response to the visual materials. Each miniature could be considered as a self contained section of the overall work, although both visual and sonic perspectives are flexible and can be determined by the player. The audiovisual miniatures are located within a stylised 3D virtual environment that is explored by the user/player, resulting in the player adopting a compositional role. The player views the work from a first person perspective, exploring the virtual environment, viewing each of the miniatures in whichever order they choose, determining perspectives (aural and visual), and visiting the site of each miniature for any length of time. This provides the player with a

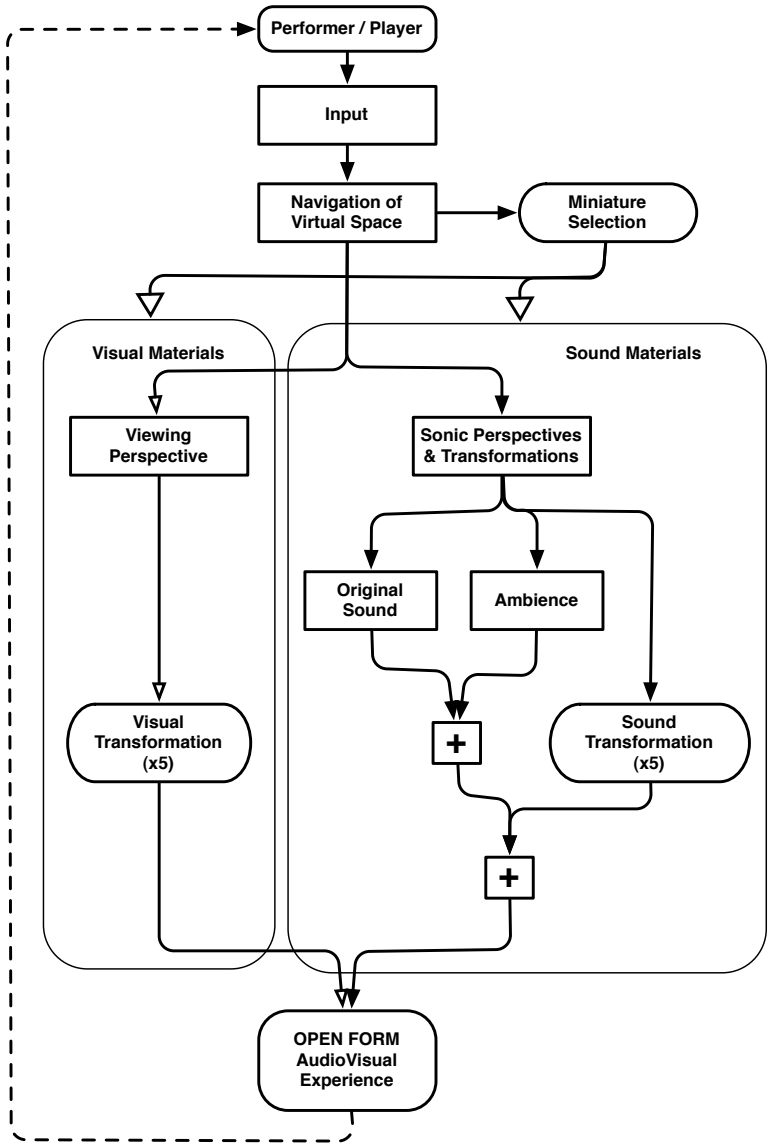


Figure 18. System Structure | Dioxide Dissolves

degree of compositional input and control of the overall structure of the experience. Flexible perspectives of the audiovisual materials results in an experience that shares some similarities with a ‘real’ art installation situation.

Figure 18 represents the scope the player has for determining the structure of their experience and initiating audiovisual transformations in the work. Each audiovisual miniature is presented on an individual viewing platform within the virtual space. A miniature is triggered and begins playing when the player moves within close proximity of a viewing platform. Once triggered, a set of five *perspective bubbles* are introduced above the corresponding platform structure. If the player chooses to navigate into one of these bubbles, then simultaneous visual and sonic transformations, or shifts in perspective occur. Each of the five *perspective bubbles* relates to a different transformation in the audio and visual domains, and once the user/player exits these bubbles then the original audiovisual miniature materials are reinstated. The *perspective bubbles* provide a further exploratory element in the work. If a player remains within a *perspective bubble*, then the audiovisual materials will remain transformed and the player may change their viewing perspective to experience the more abstract animated visual effects, and transformed sounds.

User/player navigation around the virtual installation space determines the degree of imaginary[86] reverberation, or ambience in the sound domain. Once an audiovisual miniature has been activated, then the distance between the player and the viewing platform determines the level of ambience heard. As the player moves further away from the platform, sound becomes more reverberant. The original and reverberant sounds are dynamically mixed accordingly.

Materials and Design

The starting point for the work was the capturing of the original visual materials for the piece. These are the primary source materials for the work and are used as a compositional stimulus, significantly influencing compositional choices and the overall visual design. Senses of scale are explored, and the zooming into the visual elements abstracts them from their original source. Abstraction through scale is initially achieved through the recording of the visual materials using a digital microscope camera. The source is carbonated water, this is filmed being poured into, and contained within a number of different glass receptacles.

[86] Imaginary in that simulated ‘natural’ reverberant qualities are not the intention.

Varied camera positions and lighting conditions were experimented with during filming, to encourage different reflective effects on the surfaces of the glass containers and carbonated bubbles. Video post-processing techniques are applied to the original microscope recordings. Simple colour and contrast adjustments stylise and further abstract the visuals. The resulting imagery derived from these staged naturalistic events inform the overall visual aesthetic of the virtual environment constructed, and is used as a stimulus for the composition of sound.

Designing the Virtual Environment

The virtual 3D space the audiovisual miniatures inhabit is explored by the player from a first person perspective. This method of navigation will be familiar to many who have had some experience of playing computer games. This perspective removes the need for an animated character, as a third person perspective would result in the user observing the navigation of a character (or avatar) within the space, introducing and requiring a further and undesired narrative element to the work. As the piece is not intended to have a clear narrative, and is preoccupied with more abstract imagery and sound, a first person perspective is considered to be better suited to the work's artistic preoccupations.

The work is intended as a form of virtual installation, and does not attempt to create a complex detailed virtual world that is representational of, or imitates a concrete real environment. A minimalist design approach is evident in the virtual environment, with the virtual space that extends beyond the audiovisual structures simply a void, with no broader context or environment implied. The user moves through the virtual space without the use of simulated gravity, allowing free navigation in three dimensions within the confines of the play space. This permits navigation to various vantage points to gain different perspectives of the virtual environment.[87] Free movement in three dimensions attempts to enhance a sense of ambiguity about the space itself, and to some extent reflects the idea of moving through water.

The platform structures are designed as a response to the visual source, with the spherical objects reminiscent of the carbonated bubbles. These are positioned at different heights within the virtual environment. Object textures are frequently transparent, also reflecting features of the primary visual source.

[87] Inclusion of simulated gravity is also avoided as this reinforces the idea of a walking humanoid character.

Sound Materials

Sound materials are composed to reflect the atmosphere, texture, and motion seen in each of the visual miniatures. Sounds are predominantly electronic or synthesised, and serve to further abstract the visual components. The use of recordings of water is deliberately avoided as this was considered to be too representational, and a more abstract approach to sound is intended to enhance ambiguity. Some of the audiovisual miniatures use simple sustained sonic textures or atmospheres, whilst others use granular techniques to reflect the intricate patterns of the carbonated bubbles. Sound is composed to provide a varied sonic palette, with some level of aesthetic coherence attempted to ensure that each miniature contrasts and compliments the other audiovisual materials contained within the virtual installation space. As the player may shape the overall structure of the experience, and the sequence in which each miniature is visited and experienced is flexible, the compositional process required some consideration of overall cohesion. Once the primary sound materials had been composed, the completed audio for each miniature was then subjected to a variety of studio transformations to create the reverberant (or ambience) versions,[88] and the variations for each of the five *perspective bubbles*. The composed sound was subjected to various overt treatments to further extend the palette of sounds, and to reflect the visual effects that occur when the player enters a *perspective bubble*, providing alternative audiovisual perspectives of the materials. The player has the option to explore these transformations at any point during their experience of the work.

FInal Comments

Dioxide Dissolves explores the presentation of composed fixed media audiovisual materials in an open form using an alternative medium. The work could be described as a sound toy, but is maybe more accurately defined as a virtual imaginary audiovisual installation. Whilst the player has scope for composing to some degree, determining aspects of structure, visual and sound transformations, and perspective, this occurs on a macro level as larger pre-composed structures are embedded in the work. Macro level control is a distinctive feature in this medium in the context of the portfolio, as user/player control is on a micro, or event level in the other sound toy projects presented. Whilst scope for player composition is more limited in *Dioxide Dissolves*, greater emphasis is given to providing varied audiovisual perspectives of the pre-composed structures.

[88] Which are mixed according to the distance between the player and the currently active viewing platform.

Audiovisual Miniature Still Images

Figure 19. Audiovisual Miniatures Images | Dioxide Dissolves